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Asymptotic cosmological regimes in scalar–torsion gravity with a perfect fluid

Skugoreva M., Toporensky A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, The Author(s).We consider the cosmological dynamics of a nonminimally coupled scalar field in scalar–torsion gravity in the presence of hydrodynamical matter. The potential of the scalar field have been chosen as power law with negative index, this type of potentials is usually used in quintessence scenarios. We identify several asymptotic regimes, including de Sitter, kinetic dominance, kinetic tracker, and tracker solutions and study the conditions for their existence and stability. We show that for each combination of coupling constant and potential power index one of the regimes studied in the present paper is stable to the future.

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